1. Simplify the expression below and choose the interval the simplification is contained within.

$$8 - 6 \div 16 * 12 - (18 * 2)$$

A. $[-30.3, -28.4]$

B. $[43.6, 44.1]$

C. $[-32.9, -30]$

D. $[-28.5, -25.6]$

E. None of the above

---

2. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{24}{0}}$$

A. Whole

B. Not a Real number

C. Integer

D. Irrational

E. Rational

---

3. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{-1716}{13}}$$

A. Whole

B. Integer

C. Not a Real number

D. Rational

E. Irrational

4. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{-1568}{14}} + \sqrt{0}i$$

A. Irrational

B. Pure Imaginary

C. Rational

D. Nonreal Complex

E. Not a Complex Number

---

5. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(8 - 6i)(-7 - 5i)$$

A. $a \in [-28, -18]$ and $b \in [81, 84]$

B. $a \in [-87, -83]$ and $b \in [-4, 0]$

C. $a \in [-56, -53]$ and $b \in [29, 33]$

D. $a \in [-28, -18]$ and $b \in [-85, -80]$

E. $a \in [-87, -83]$ and $b \in [0, 5]$

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6. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-45 - 11i}{3 - 4i}$$

A. $a \in [-5.5, -3.5]$ and $b \in [-9.5, -8]$

B. $a \in [-8, -6.5]$ and $b \in [5.5, 6.5]$

C. $a \in [-17, -14]$ and $b \in [1, 4]$

D. $a \in [-5.5, -3.5]$ and $b \in [-213.5, -212.5]$

E. $a \in [-91.5, -90]$ and $b \in [-9.5, -8]$

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7. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-6 + 2i)(-10 + 4i)$$

A. $a \in [58, 62]$ and $b \in [6, 15]$

B. $a \in [66, 71]$ and $b \in [0, 5]$

C. $a \in [45, 55]$ and $b \in [37, 45]$

D. $a \in [66, 71]$ and $b \in [-7, -1]$

E. $a \in [45, 55]$ and $b \in [-45, -43]$

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8. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-36 - 11i}{6 - 2i}$$

A. $a \in [-5.99, -5.93]$ and $b \in [-1, 1]$

B. $a \in [-4.87, -4.85]$ and $b \in [-4.5, -3]$

C. $a \in [-6.01, -5.96]$ and $b \in [4, 6]$

D. $a \in [-4.87, -4.85]$ and $b \in [-138.5, -137.5]$

E. $a \in [-194.02, -193.99]$ and $b \in [-4.5, -3]$

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9. Simplify the expression below and choose the interval the simplification is contained within.

$$17 - 8 \div 15 * 9 - (13 * 5)$$

A. $[-54.8, -50.8]$

B. $[-50.06, -44.06]$

C. $[76.94, 82.94]$

D. $[-8, -0]$

E. None of the above

---

10. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{0}{49}} + \sqrt{5}i$$

A. Rational

B. Nonreal Complex

C. Pure Imaginary

D. Not a Complex Number

E. Irrational
